

## Commencement of Mass Production of Semiconductor Etching Gas CEG<sup>®</sup>34E

Central Glass, a leading company of semiconductor materials, has been developing semiconductor material gases for various applications.

We are pleased to announce that we have begun mass production of the semiconductor etching gas CEG<sup>®</sup>34E at our Ube Plant (Ube City, Yamaguchi Prefecture) as of August 2024, to support adoption in customer mass production and future demand growth.

CEG<sup>®</sup>34E is a new plasma etching gas developed for next-generation 3D NAND Flash, in which multilayer stacking continues to advance. Due to its characteristics<sup>\*1</sup>, CEG<sup>®</sup>34E demonstrates excellent performance in deep etching applications of advanced generation 3D NAND Flash memory holes<sup>\*2</sup> (see Figure: Etching selectivity for photoresist film), contributing to technological innovation in high multilayer 3D NAND Flash technology. Additionally, this product is a low GWP gas, significantly contributing to the reduction of greenhouse gas (GHG) emissions.

Central Glass will continue to launch several new environmentally friendly etching gases for AI semiconductor manufacturing applications.

\*1 Characteristics that suppress etching damage to masks and photoresists, enabling linear etching of the targeted multi-stacked film materials

\*2 Si channel holes that penetrate multiple layers of horizontally stacked 3D NAND memory cells

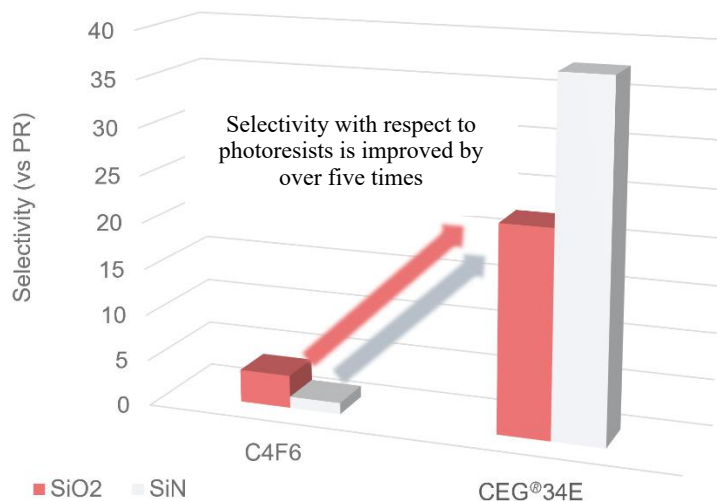


Figure: Etching selectivity for photoresist film (comparison with C4F6)

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